

FIG. 1
PRIOR ART

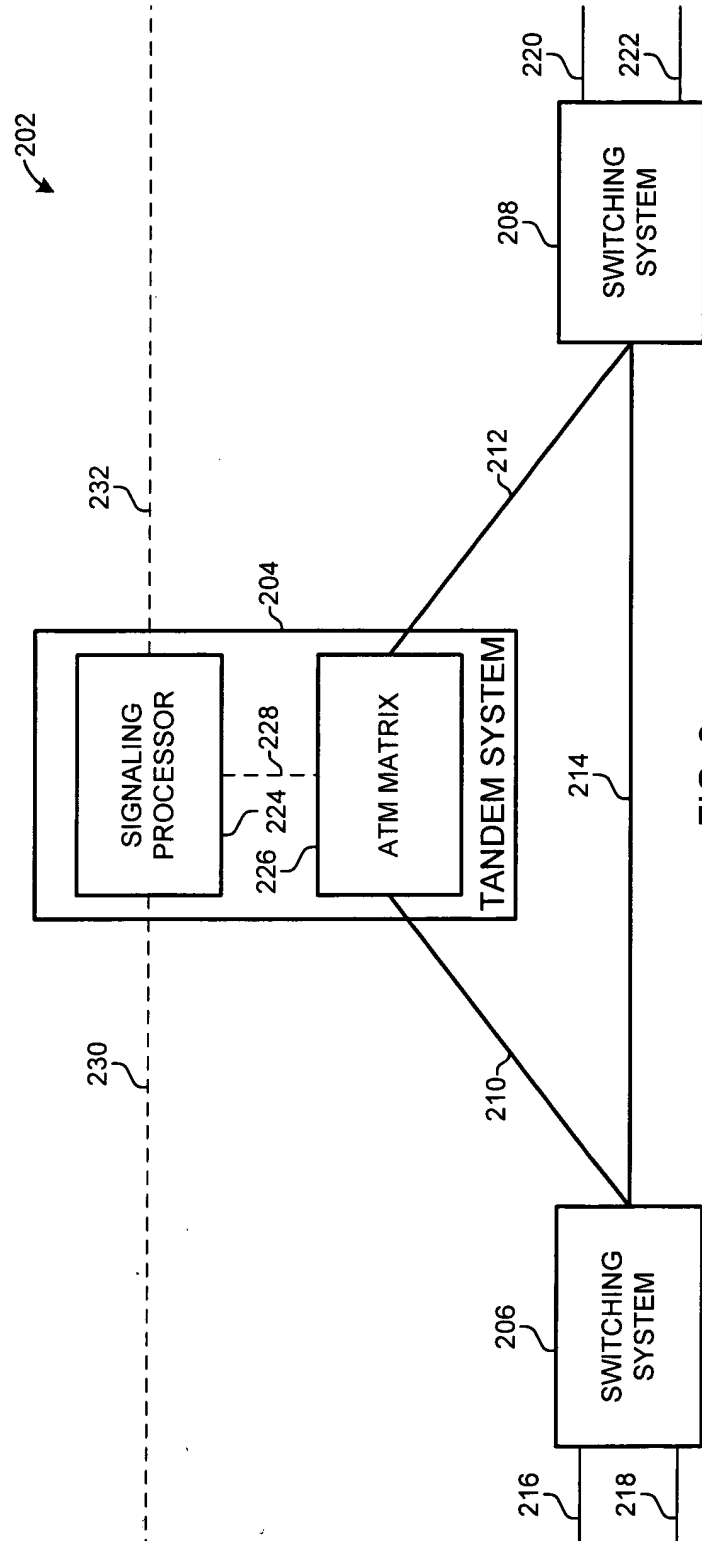
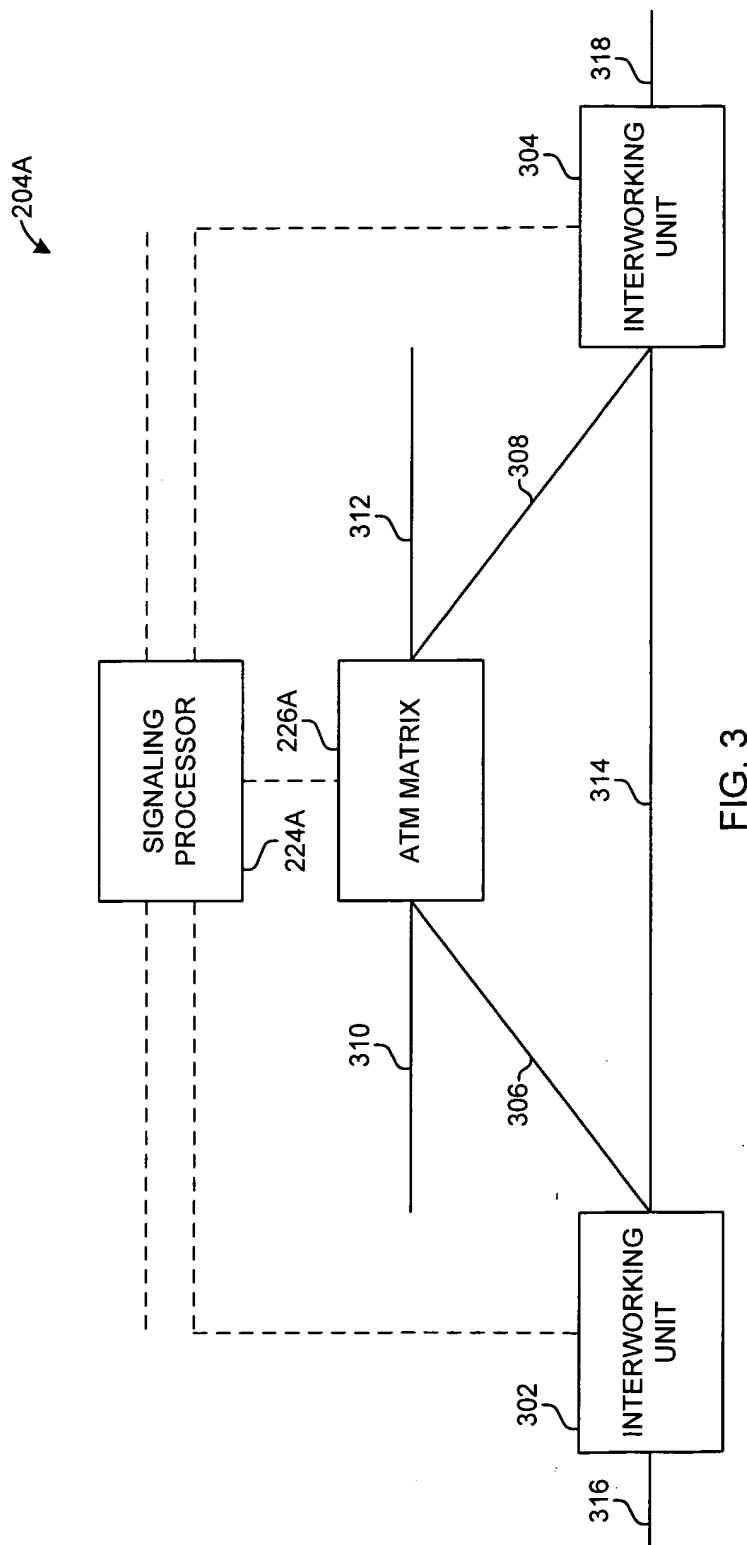


FIG. 2



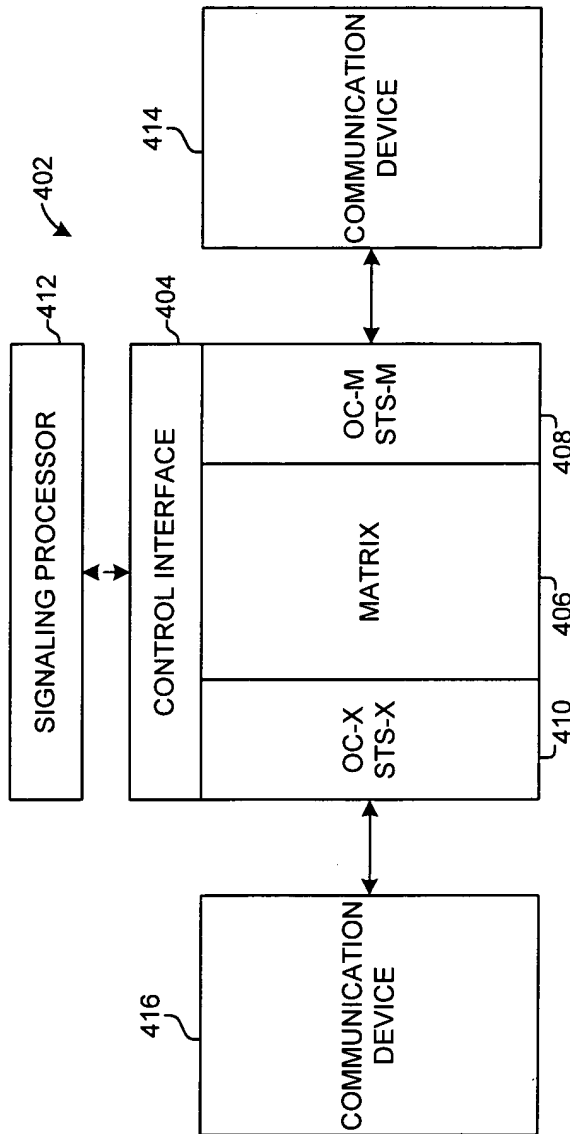
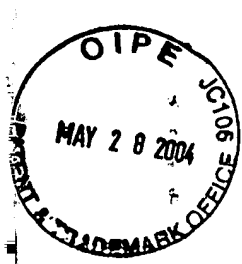
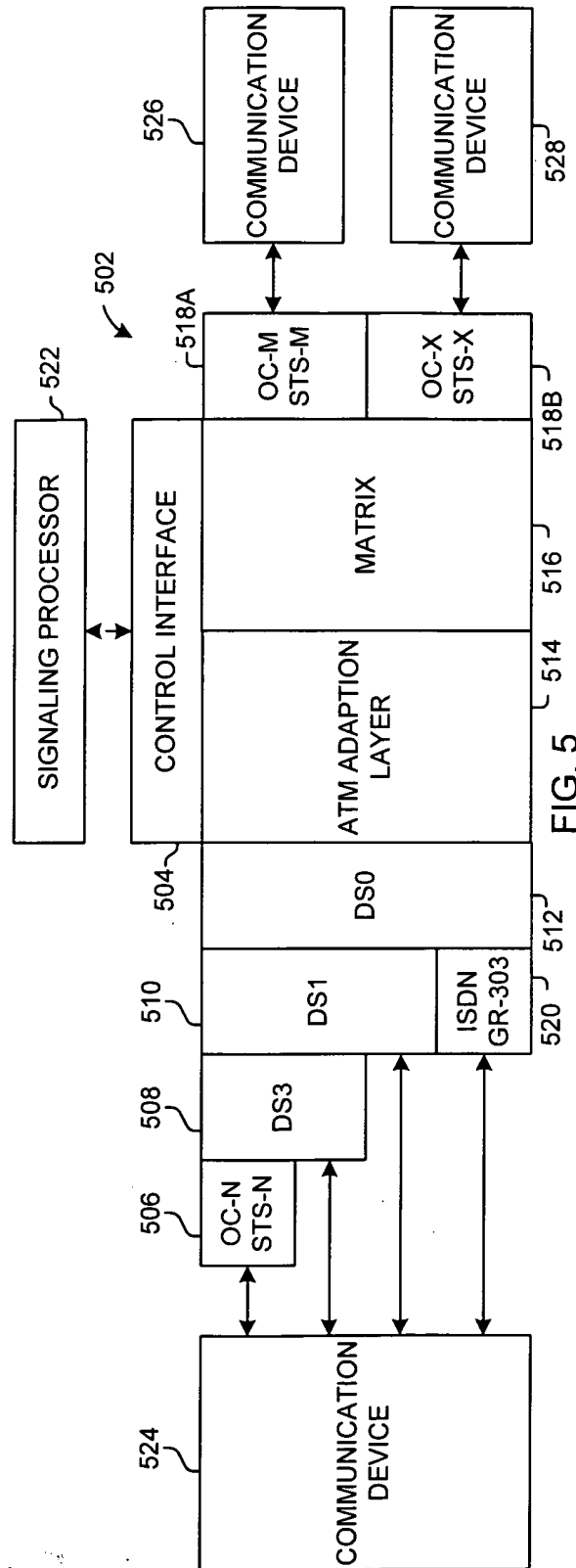


FIG. 4



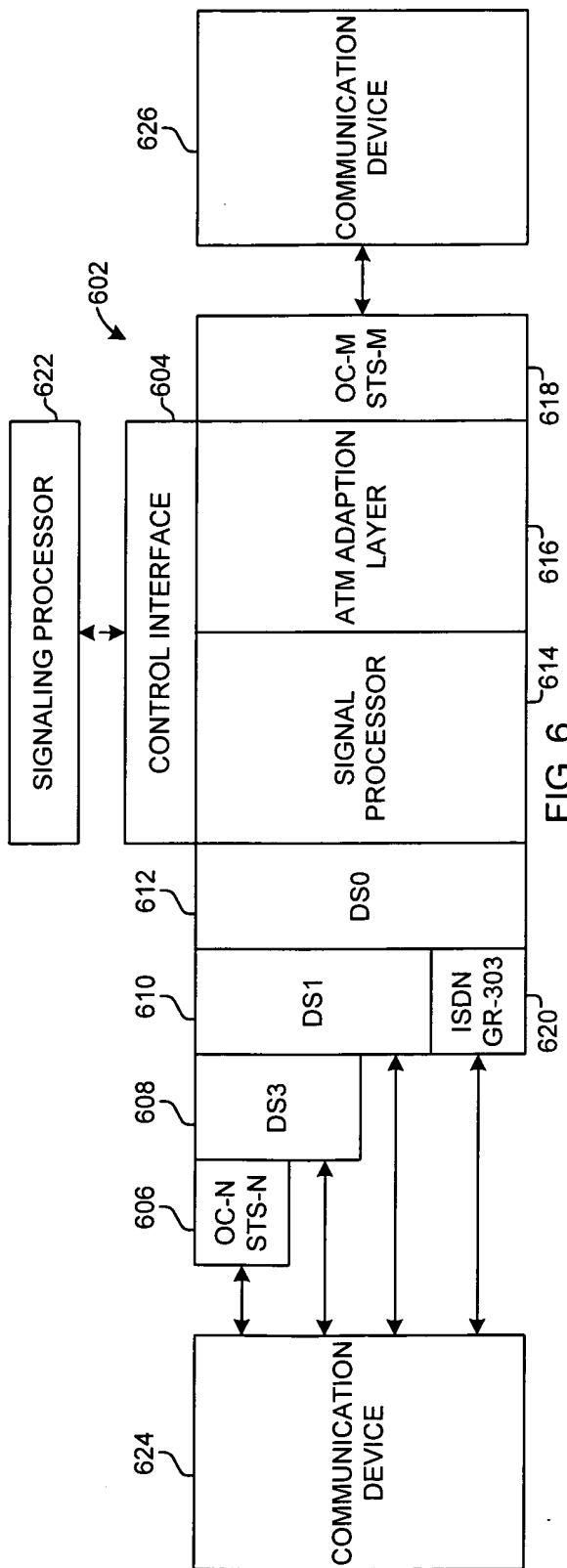


FIG. 6

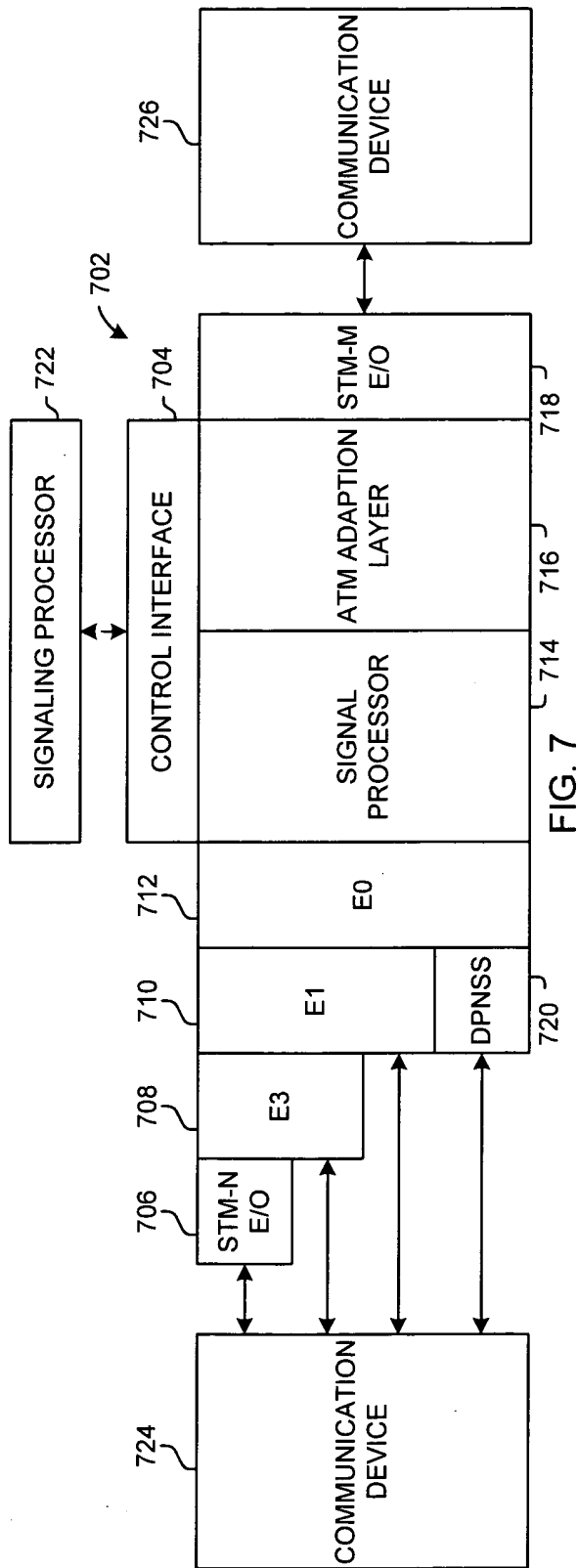


FIG. 7

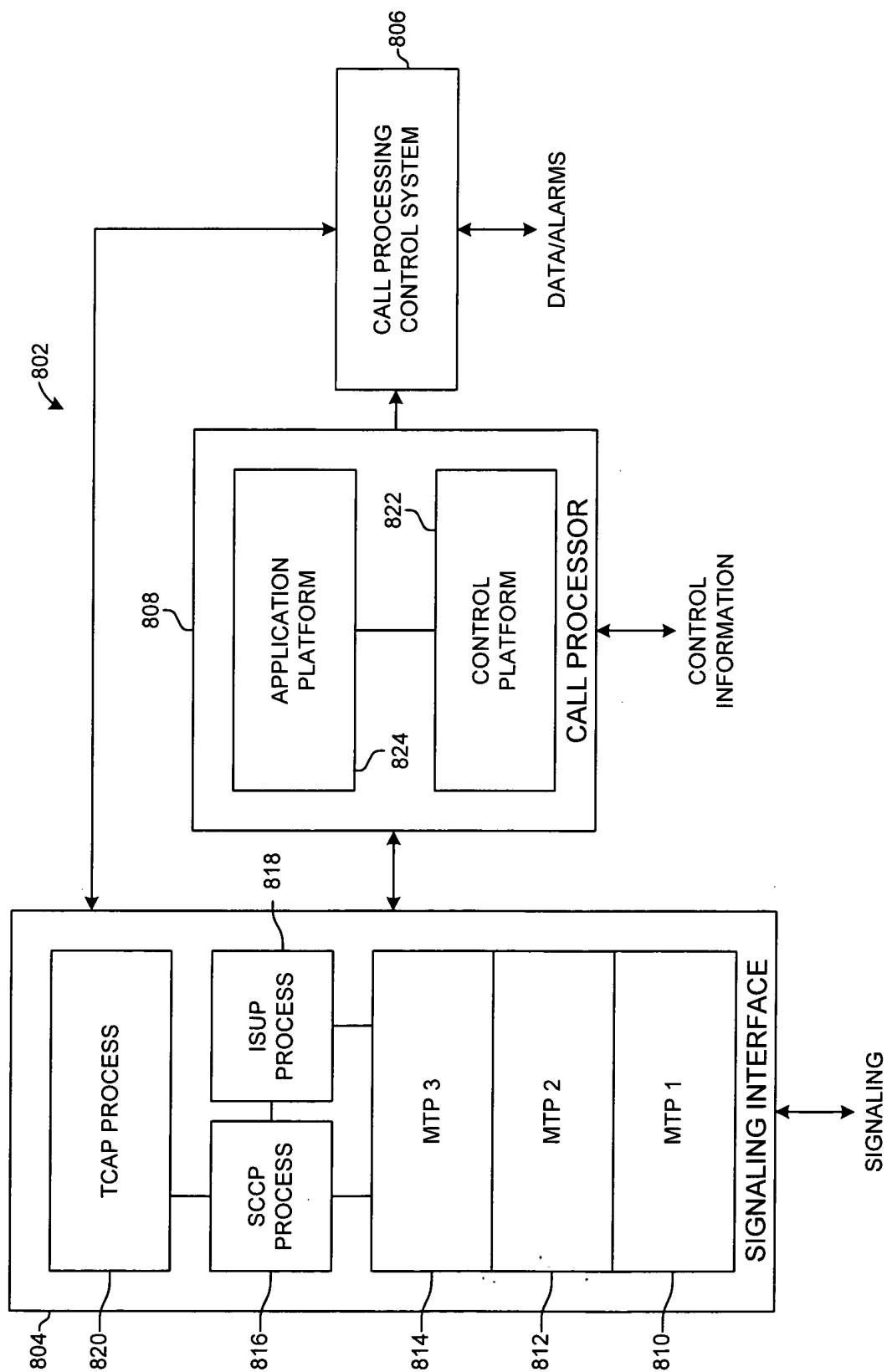
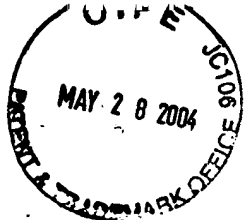


FIG. 8

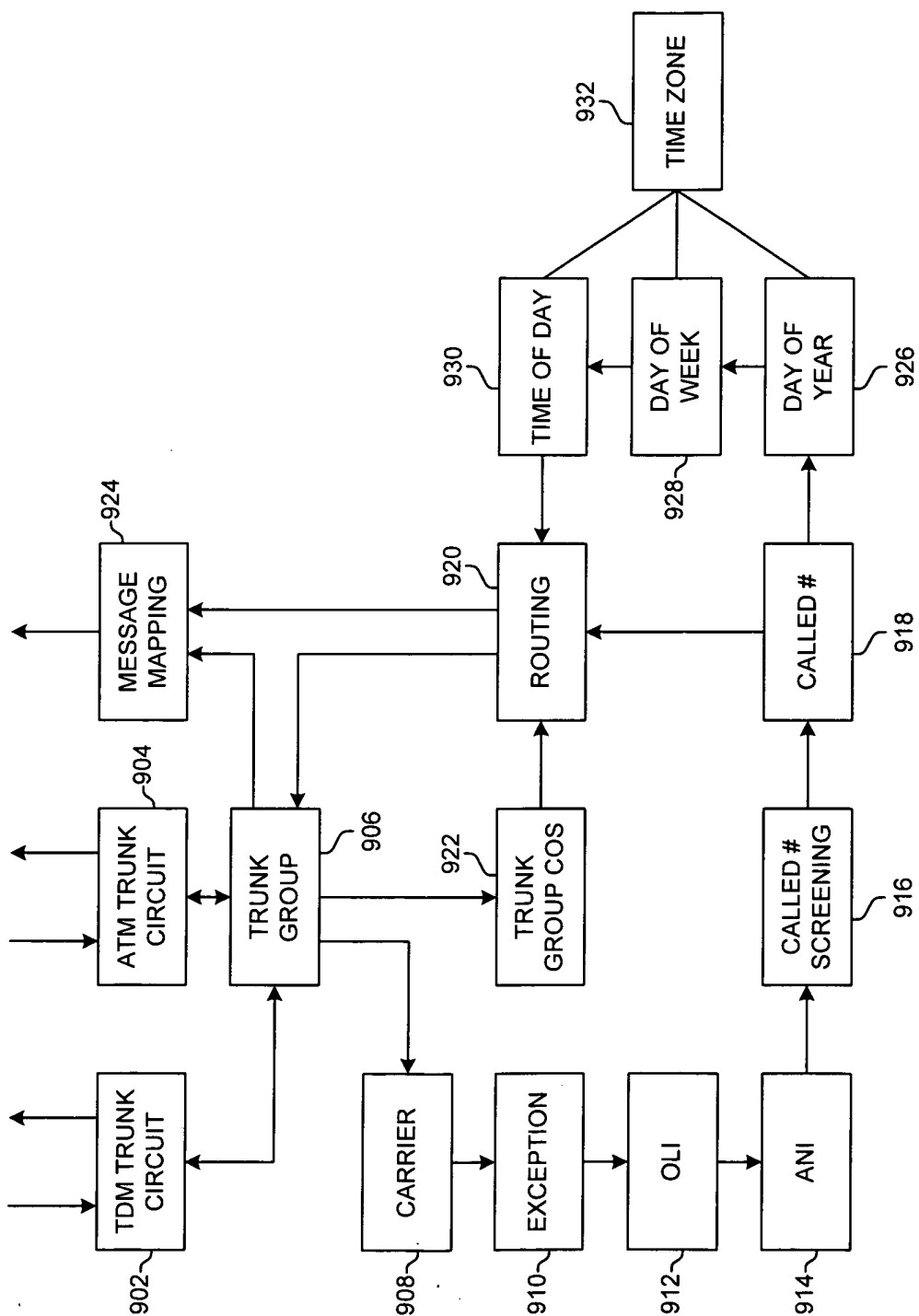


FIG. 9

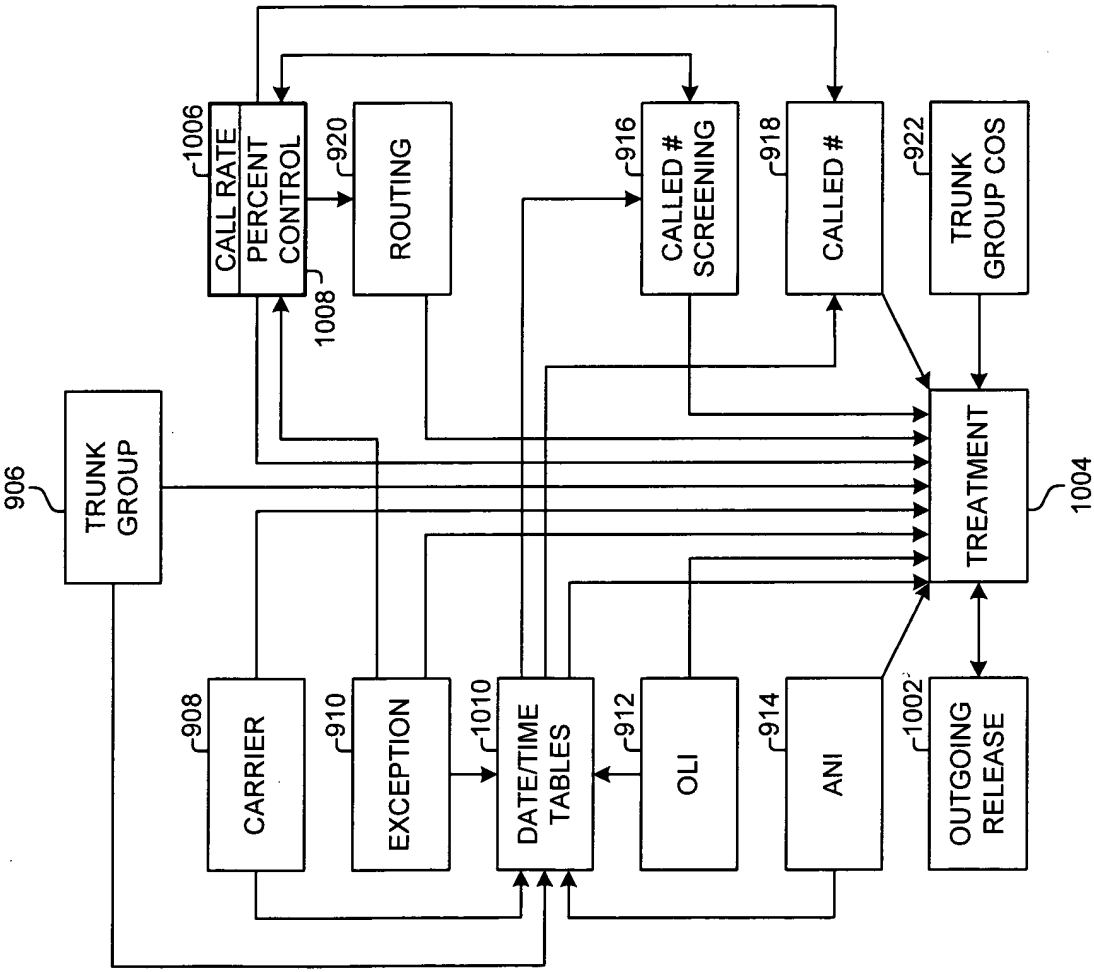


FIG. 10

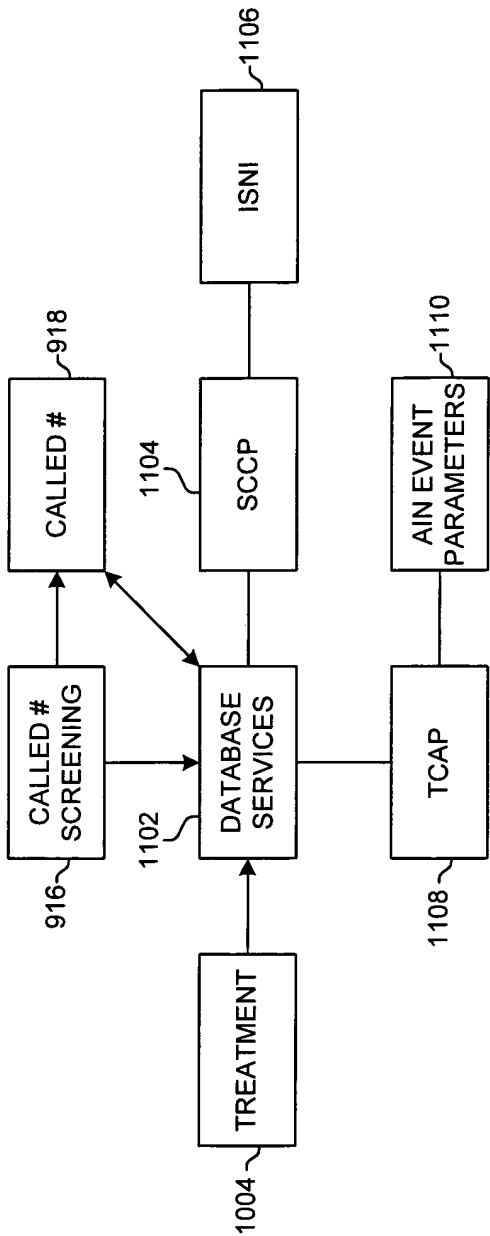
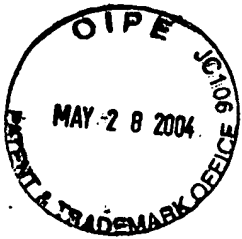


FIG. 11

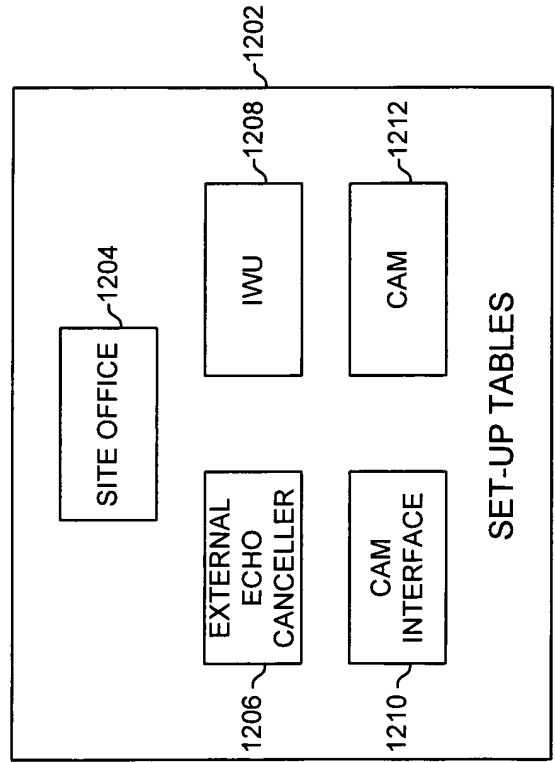
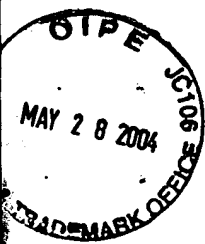


FIG. 12



| TRUNK GROUP NUMBER | GROUP MEMBER | TCIC | EC LABEL | IWU LABEL | IWU PORT | DS1/E1 LABEL | DS1/E1 CHANNEL | INITIAL STATE |
|--------------------|--------------|------|----------|-----------|----------|--------------|----------------|---------------|
| | | | | | | | | |
| | | | | | | | | |

FIG. 13

| TRUNK GROUP NUMBER | GROUP SIZE | STARTING CIC | TRANSMIT INTERFACE LABEL | TRANSMIT VPI | RECEIVE INTERFACE LABEL | RECEIVE VPI | INITIAL STATE |
|--------------------|------------|--------------|--------------------------|--------------|-------------------------|-------------|---------------|
| | | | | | | | |
| | | | | | | | |

FIG. 14

| TRUNK GROUP NUMBER | ADMIN INFORMATION | ASSOCIATED POINT CODE | CLLI | TRUNK TYPE | ASSOCIATED NPA | ASSOCIATED JIP | TIME ZONE LABEL | ECHO CANCELLER INFORMATION |
|--------------------|-------------------|-----------------------|------|------------|----------------|----------------|-----------------|----------------------------|
| | | | | | | | | |
| | | | | | | | | |

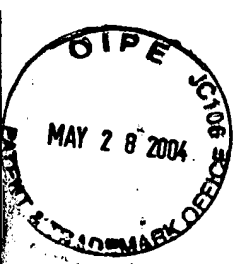
FIG. 15A

| SATELLITE | SELECT SEQUENCE | IWU PRIORITY | GLARE RESOLUTION | CONTINUITY CONTROL | REATTEMPTS | IGNORE LNP INFORMATION | TREATMENT LABEL | MESSAGE MAPPING LABEL |
|-----------|-----------------|--------------|------------------|--------------------|------------|------------------------|-----------------|-----------------------|
| | | | | | | | | |
| | | | | | | | | |

FIG. 15B

| QUEUE | RING NO ANSWER | VOICE PATH CUT THROUGH | ORIGINATING COS LABEL | TERMINATING COS LABEL | CALL CONTROL | NEXT FUNCTION | NEXT LABEL |
|-------|----------------|------------------------|-----------------------|-----------------------|--------------|---------------|------------|
| | | | | | | | |
| | | | | | | | |

FIG. 15C



| CARRIER LABEL | CARRIER ID | CARRIER SELECTION | NEXT FUNCTION | NEXT LABEL |
|---------------|------------|-------------------|---------------|------------|
| | | | | |
| | | | | |

FIG. 16

| EXCEPTION LABEL | CALLING PARTY'S CATEGORY | CALLED NUMBER | | | NEXT FUNCTION | NEXT LABEL |
|-----------------|--------------------------|-------------------|-------------|-----------|---------------|------------|
| | | NATURE OF ADDRESS | DIGITS FROM | DIGITS TO | | |
| | | | | | | |
| | | | | | | |

FIG. 17

| OLI LABEL | ORIGINATION LINE INFORMATION | NEXT FUNCTION | NEXT LABEL |
|-----------|------------------------------|---------------|------------|
| | | | |
| | | | |

FIG. 18

| ANI LABEL | CHARGE CALLING PARTY NUMBER | | TIME ZONE LABEL | CUSTOMER INFORMATION | EC INFORMATION | QUEUE | TREATMENT LABEL | NEXT FUNCTION | NEXT LABEL |
|-----------|-----------------------------|-----------|-----------------|----------------------|----------------|-------|-----------------|---------------|------------|
| | DIGITS FROM | DIGITS TO | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

FIG. 19

| CALLED NUMBER SCREENING LABEL | CALLED NUMBER | | | DELETE DIGITS | NEXT FUNCTION | NEXT LABEL |
|-------------------------------|-------------------|-------------|-----------|---------------|---------------|------------|
| | NATURE OF ADDRESS | DIGITS FROM | DIGITS TO | | | |
| | | | | | | |
| | | | | | | |

FIG. 20



| CALLED NUMBER LABEL | CALLED NUMBER | | NEXT FUNCTION | NEXT LABEL |
|---------------------|-------------------|-------------|---------------|------------|
| | NATURE OF ADDRESS | DIGITS FROM | | |
| | | | | |
| | | | | |

FIG. 21

| DAY OF YEAR LABEL | DATE | NEXT FUNCTION | NEXT LABEL |
|-------------------|------|---------------|------------|
| | | | |
| | | | |

FIG. 22

| DAY OF WEEK | DAY FROM | DAY TO | NEXT FUNCTION | NEXT LABEL |
|-------------|----------|--------|---------------|------------|
| | | | | |
| | | | | |

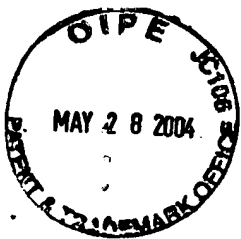
FIG. 23

| TIME OF DAY LABEL | TIME FROM | TIME TO | NEXT FUNCTION | NEXT LABEL |
|-------------------|-----------|---------|---------------|------------|
| | | | | |
| | | | | |

FIG. 24

| TIME ZONE LABEL | UTC OFFSET | DAYLIGHT SAVINGS |
|-----------------|------------|------------------|
| | | |
| | | |

FIG. 25



| ROUTING LABEL | ROUTE NUMBER | NEXT FUNCTION | NEXT LABEL | SIGNAL ROUTE LABEL |
|---------------|--------------|---------------|------------|--------------------|
| | | | | |
| | | | | |

FIG. 26

| ORIGINATING TRUNK COS LABEL | TERMINATING TRUNK COS LABEL | NEXT FUNCTION | NEXT LABEL |
|-----------------------------|-----------------------------|---------------|------------|
| | | | |
| | | | |

FIG. 27

| TREATMENT LABEL | ERROR/CAUSE LABEL | NEXT FUNCTION | NEXT LABEL |
|-----------------|-------------------|---------------|------------|
| | | | |
| | | | |

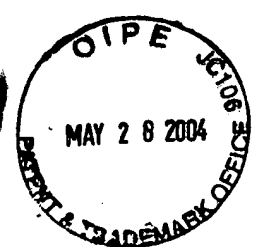
FIG. 28

| OUTGOING RELEASE LABEL | OUTGOING CAUSE VALUE | | |
|------------------------|----------------------|-----------------|-------------|
| | LOCATION | CODING STANDARD | CAUSE VALUE |
| | | | |
| | | | |

FIG. 29

| PERCENT LABEL | CONTROL PERCENTAGE | CONTROL | | PASSED | |
|---------------|--------------------|---------------|------------|---------------|------------|
| | | NEXT FUNCTION | NEXT LABEL | NEXT FUNCTION | NEXT LABEL |
| | | | | | |
| | | | | | |

FIG. 30



| CALL RATE LABEL | CALL RATE | CONTROL | | PASSED | |
|-----------------|-----------|---------------|------------|---------------|------------|
| | | NEXT FUNCTION | NEXT LABEL | NEXT FUNCTION | NEXT LABEL |
| | | | | | |
| | | | | | |

FIG. 31

| DATABASE SERVICES LABEL | SERVICE TYPE | SCCP LABEL | TCAP LABEL | NEXT FUNCTION | NEXT LABEL |
|-------------------------|--------------|------------|------------|---------------|------------|
| | | | | | |
| | | | | | |
| | | | | | |

FIG. 32

| SCCP LABEL | MESSAGE TYPE | PROTOCOL CLASS | MESSAGE HANDLING | HOP COUNTER | SEGMENTATION |
|------------|--------------|----------------|------------------|-------------|--------------|
| | | | | | |
| | | | | | |
| | | | | | |

FIG. 33A

| ISNI | | | |
|-----------|-----------------|----------------|-------|
| ISNI TYPE | ROUTE INDICATOR | MARK INDICATOR | LABEL |
| | | | |
| | | | |
| | | | |

FIG. 33B

| CALLED PARTY ADDRESS | | | | | | | | | |
|----------------------|---------------|---------------------------|----------------------|----------------------------|-------------------------|-------------------------|---------------------|------------------|----------------|
| ADDRESS INDICATOR | | | | | SUB SYSTEM NUMBER | POINT CODE NUMBER | GLOBAL TITLE | | |
| SSN | POINT CODE | GLOBAL TITLE INDICATOR | ROUTING INDICATOR | NATIONAL/ INTERNATIONAL | | | TRANSLATION TYPE | ENCODE SCHEME | NUMBER PLAN |
| | | | | | | | | | |
| | | | | | | | | | |

FIG. 33C



| CALLING PARTY ADDRESS | | | | | | | | | | |
|-----------------------|------------|------------------------|-------------------|------------------------|-------------------|-------------------|------------------|---------------|-------------|--------------|
| ADDRESS INDICATOR | | | | | GLOBAL TITLE | | | | | |
| SSN | POINT CODE | GLOBAL TITLE INDICATOR | ROUTING INDICATOR | NATIONAL/INTERNATIONAL | SUB SYSTEM NUMBER | POINT CODE NUMBER | TRANSLATION TYPE | ENCODE SCHEME | NUMBER PLAN | ADDRESS TYPE |
| | | | | | | | | | | |
| | | | | | | | | | | |

FIG. 33D

| | | | | | |
|------------|-----------|-----------|-----------|-------------|------------|
| ISNI LABEL | NETWORK 1 | NETWORK 2 | NETWORK 3 | NETWORK ... | NETWORK 16 |
| | | | | | |
| | | | | | |

FIG. 34

| | | | | | |
|------------|-----------|-----------|--------------|----------------|--------------|
| TCAP LABEL | TCAP TYPE | TAG CLASS | PACKAGE TYPE | COMPONENT TYPE | MESSAGE TYPE |
| | | | | | |
| | | | | | |

FIG. 35

| | | | |
|----------------------|---------------------|----------------|--------|
| ECHO CANCELLER LABEL | ECHO CANCELLER TYPE | RS-232 ADDRESS | MODULE |
| | | | |
| | | | |

FIG. 36

| | | | | | |
|-----------|--------|-------------|-------------|-------------|-------------|
| IWU LABEL | IWU ID | IP SOCKET 1 | IP SOCKET 2 | IP SOCKET 3 | IP SOCKET 4 |
| | | | | | |
| | | | | | |

FIG. 37

| | | |
|---------------------|-----------|-------------------|
| CAM INTERFACE LABEL | CAM LABEL | LOGICAL INTERFACE |
| | | |
| | | |

FIG. 38



| CAM LABEL | CAM TYPE | CAM ADDRESS |
|-----------|----------|-------------|
| | | |
| | | |

FIG. 39

| OFFICE CLLI NAME | SITE NODE ID | ORIGINATION ID | SOFTWARE ID | CALL PROCESSOR ID |
|------------------|--------------|----------------|-------------|-------------------|
| | | | | |
| | | | | |

FIG. 40A

| ACC ENABLED | ACL 1 ONSET | ACL 1 ABATE | ACL 2 ONSET | ACL 2 ABATE | ACL 3 ONSET | ACL 3 ABATE |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | | | | | | |
| | | | | | | |

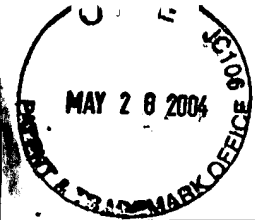
FIG. 40B

| MAX TRUNKS OHQ | OHQ TQ1 | OHQ TQ2 | RING NO ANSWER TIMER | BILLING ACTIVE | NWM ALLOW | BILLING FAILURE FREE CALL |
|-------------------|---------|---------|-------------------------|----------------|-----------|------------------------------|
| | | | | | | |
| | | | | | | |

FIG. 40C

| MAX HOP COUNTS | MAX TABLE LOOKUPS |
|----------------|-------------------|
| | |
| | |

FIG. 40D



| AIN EVENT PARAMETERS LABEL | MESSAGE NAME #1 | MESSAGE NAME #.... | MESSAGE NAME #N |
|-------------------------------------|--------------------|-----------------------|--------------------|
| ACCESS CODE | | | |
| ACG ENCOUNTERED | | | |
| ALTERNATE BILLING INDICATOR | | | |
| ALTERNATE TRUNK GROUP | | | |
| AMA ALTERNATE BILLING NUMBER | | | |
| AMA BUSINESS CUSTOMER ID | | | |
| AMA DIGITS DIALED WC | | | |
| AMA LINE NUMBER | | | |
| AMA SLPID | | | |
| AMP | | | |
| ANSWER INDICATOR | | | |
| BEARER CAPABILITY | | | |
| BUSY CAUSE | | | |
| CALLED PARTY ID | | | |
| CALLED PARTY STATION TYPE | | | |
| CALLING PARTY BGID | | | |
| CARRIER | | | |
| CHARGE NUMBER | | | |
| CHARGE PARTY STATION TYPE | | | |
| CLEAR CAUSE | | | |
| COLLECTED ADDRESS INFORMATION | | | |
| COLLECTED DIGITS | | | |
| CONTROLLING LEG TREATMENT | | | |
| DISCONNECT FLAG | | | |
| DISPLAY TEXT | | | |
| FACILITY GID (TRUNK GROUP ID) | | | |
| FACILITY GID (PRIVATE FACILITY GID) | | | |
| FACILITY GID (ROUTE INDEX) | | | |
| FACILITY MEMBER ID | | | |
| FAILURE CAUSE | | | |
| GENERIC NAME | | | |
| ISDN INTERFACE ID | | | |
| LATA | | | |
| ORIGINAL CALLED PARTY ID | | | |
| OUTPULSE NUMBER | | | |
| OVERFLOW BILLING NUMBER | | | |
| PASSIVE LEG TREATMENT | | | |
| PRIMARY BILLING INDICATOR | | | |
| PRIMARY CARRIER | | | |
| PRIMARY TRUNK GROUP | | | |
| REDIRECTING PARTY ID | | | |
| REDIRECTION INFORMATION | | | |
| RESOURCE TYPE | | | |
| SECOND ALTERNATE BILLING INDICATOR | | | |
| SECOND ALTERNATE CARRIER | | | |
| SECOND ALTERNATE TRUNK GROUP | | | |
| SPID | | | |
| STR PARAMETER BLOCK | | | |

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FIG. 41A



Replacement Sheet
Application No. 09/218,817
Filed: 12/22/1998
Inventor: Michael Joseph Gardner

| AIN EVENT PARAMETERS LABEL | MESSAGE NAME #1 | MESSAGE NAME #.... | MESSAGE NAME #N |
|--------------------------------------|--------------------|-----------------------|--------------------|
| TCM | | | |
| TRIGGER CRITERIA TYPE | | | |
| USER ID | | | |
| VERTICAL SERVICE CODE | | | |
| APPLICATION ERROR STRING | | | |
| ERROR CAUSE | | | |
| FAILED MESSAGE | | | |
| CONNECT TIME | | | |
| CONTROL CAUSE INDICATOR | | | |
| ECHO DATA | | | |
| FACILITY STATUS | | | |
| GAP DURATION | | | |
| GAP INTERVAL (NATIONAL GAP INTERVAL) | | | |
| GAP INTERVAL (PRIVATE GAP INTERVAL) | | | |
| GLOBAL TITLE VALUE | | | |
| MONITOR TIME | | | |
| STATUS CAUSE | | | |
| TERMINATION INDICATOR | | | |
| TRANSLATION TYPE | | | |
| TRIGGER CRITERIA FLAG | | | |

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FIG. 41B

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Replacement Sheet
 Application No. 09/218,817
 Filed: 12/22/1998
 Inventor: Michael Joseph Gardner

| MESSAGE TYPE | PARAMETERS | INDEX #1 | INDEX #.... | INDEX #N |
|-------------------------------------|---------------------------------|----------|-------------|----------|
| ADDRESS COMPLETE | BACKWARD CALL INDICATOR | | | |
| | ACCESS TRANSPORT | | | |
| | CAUSE INDICATOR | | | |
| | PRIVATE OPTIONAL | | | |
| ANSWER | ACCESS TRANSPORT | | | |
| | BACKWARD CALL INDICATOR | | | |
| | PRIVATE OPTIONAL | | | |
| CALL PROGRESS | NOTIFICATION | | | |
| | BACKWARD CALL INDICATOR | | | |
| | ACCESS TRANSPORT | | | |
| | CAUSE INDICATOR | | | |
| | BACKWARD CALL INDICATOR | | | |
| CIRCUIT VALIDATION RESPONSE MESSAGE | CIRCUIT ID NAME | | | |
| | CLLI CODE | | | |
| CONTINUITY | CONTINUITY INDICATOR | | | |
| EXIT | DISPOSITION | | | |
| | TRUNK GROUP NUMBER | | | |
| | SEND BACK EXIT MESSAGE | | | |
| INITIAL ADDRESS | FORWARD CALL INDICATOR | | | |
| | CALLING PARTY'S CATEGORY | | | |
| | GENERIC ADDRESS PARAMETER (LNP) | | | |
| | CALLED PARTY NUMBER | | | |
| | CALLING PARTY NUMBER | | | |
| | GENERIC DIGITS | | | |
| | CHARGE NUMBER | | | |
| | ORIGINATING LINE INFORMATION | | | |
| | TRANSIT NETWORK SELECTION | | | |
| | CARRIER SELECTION INFORMATION | | | |
| | ORIGINATING LINE INFORMATION | | | |
| | SERVICE CODE | | | |
| | CARRIER IDENTIFICATION | | | |
| | ORIGINAL CALLED NUMBER | | | |
| | REDIRECTING NUMBER | | | |
| | REDIRECTION INFORMATION | | | |
| | GENERIC ADDRESS (NON-LNP) | | | |
| | ACCESS TRANSPORT | | | |
| | HOP COUNTER | | | |
| | JURISDICTION INFORMATION | | | |
| RELEASE | ACCESS TRANSPORT | | | |
| | AUTOMATIC CONGESTION CONTROL | | | |

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FIG. 42

